Psychiatry Research 260 (2018) 371–378

Contents lists available at ScienceDirect

Psychiatry Research

journal homepage: www.elsevier.com/locate/psychres

Distinct pathological profiles of inmates showcasing cluster B personality traits, mental disorders and substance use regarding violent behaviors

Laura Dellazizzo[a,b], Jules R. Dugré[a,b,c], Marieke Berwald[a,b], Marie-Christine Stafford[e], Gilles Côté[d,e], Stéphane Potvin[a,b], Alexandre Dumais[a,b,e,*]

[a] Centre de recherche de l'Institut Universitaire en Santé Mentale de Montréal, Montreal, Canada
[b] Department of Psychiatry, Faculty of Medicine, Université de Montréal, Montreal, Canada
[c] School of Criminology, Faculty of Arts and Science, Université de Montréal, Montreal, Canada
[d] Department of Psychology, Université du Québec, Trois-Rivières, Canada
[e] Centre de recherche de l'Institut Philippe-Pinel de Montréal, Montreal, Canada

ARTICLE INFO

Keywords:
Violence
Suicide
Cluster B personality traits
Substance use disorders
Severe mental illnesses
Clustering

ABSTRACT

High rates of violence are found amid offenders with severe mental illnesses (SMI), substance use disorders (SUDs) and Cluster B personality disorders. Elevated rates of comorbidity lead to inconsistencies when it comes to this relationship. Furthermore, overlapping Cluster B personality traits have been associated with violence. Using multiple correspondence analysis and cluster analysis, this study was designed to differentiate profiles of 728 male inmates from penitentiary and psychiatric settings marked by personality traits, SMI and SUDs following different violent patterns. Six significantly differing clusters emerged. Cluster 1, "*Sensation seekers*", presented recklessness with SUDs and low prevalence's of SMI and auto-aggression. Two clusters committed more sexual offenses. While Cluster 2, "*Opportunistic-sexual offenders*", had more antisocial lifestyles and SUDs, Cluster 6, *"Emotional-sexual offenders",* displayed more emotional disturbances with SMI and violence. Clusters 3 and 4, representing "*Life-course-persistent offenders*", shared early signs of persistent antisocial conduct and severe violence. Cluster 3, "*Early-onset violent delinquents*", emerged as more severely antisocial with SUDs. Cluster 4, "*Early-onset unstable-mentally ill delinquents",* were more emotionally driven, with SMI and auto-aggression. Cluster 5, "*Late-start offenders",* was less severely violent, and emotionally driven with antisocial behavior beginning later. This study suggests the presence of specific psychopathological organizations in violent inmates.

1. Introduction

Violence is a complex and multifactorial issue that has serious health and social consequences (World Health Organization, 2014). Importantly, people with severe mental illnesses (SMI) are at an increased risk of violence and criminality compared to the general population (Hodgins et al., 1996; Arseneault et al., 2000; Fazel et al., 2014) and even higher rates have been seen in diagnoses such as substance abuse disorders (SUDs) and Cluster B personality disorders (PDs) (Boles and Miotto, 2003; Yu et al., 2012). Such behaviors have many negative consequences including hospitalization and incarceration. Likewise, there is an increased prevalence of these disorders in forensic psychiatry and prisons settings (Prins, 2014). Although prior literature has clearly shown an association between SMI, Cluster B PDs and SUDs and violence, research is still plagued by the elevated rates of comorbidity, which translates to great heterogeneity. Thus, distinct subgroups of offenders may exist. Criminal offenders often have dual or triple diagnoses, whereas they are often accompanied by distinct comorbid PDs, SMI and/or SUDs (Hartwell, 2004), accentuating their involvement in aggression substantially (Hodgins et al., 1999; Swanson et al., 2002; Chang et al., 2015). More common amid offenders is the co-occurrence of Antisocial PDs (ASPD) and Borderline PDs (BPD). Freestone et al. (2013) found that this co-occurrence represents a combination of traits that is linked with adverse outcomes (i.e., a high risk for frequent and severe violence) and with comorbid drug/alcohol dependence. Overlapping personality traits may explain this comorbidity such as impulsivity reflected in risk taking behaviors as well as affective instability, aggressiveness and novelty seeking that characterize both substance abusers and PDs (Gerra et al., 2000, 2001; Liraud and Verdoux, 2000; Bornovalova et al., 2005).

Various constellation of Cluster B personality traits may likely aid to explain the proclivity towards violent acts. Offenders with psychiatric illnesses may be at a higher risk of violence due to abnormal personality traits that are common risk factors for violence (Skeem et al., 2004). In

* Corresponding author at: Centre de recherche de l'Institut Universitaire en Santé Mentale de Montréal, 7331 Hochelaga, Montreal, Canada H1N 3V2.
E-mail address: alexandre.dumais@umontreal.ca (A. Dumais).

https://doi.org/10.1016/j.psychres.2017.12.006
Received 25 May 2017; Received in revised form 4 December 2017; Accepted 4 December 2017
Available online 06 December 2017
0165-1781/

fact, an increase in Cluster B PDs symptoms has shown to significantly correlate with violence and these symptoms have been associated with different acts of violence (Lowenstein et al., 2016). While violence in ASPD is generally more proactive, predominated by an absence of remorse, high sensation seeking, another group with more reactive, impulsive and emotional violence has been differentiated, demonstrating the imprecision and heterogeneity of the condition (Esbec and Echeburua, 2010). Furthermore, the presence of narcissistic traits in comorbidity with ASPD/BPD leads to heterogeneous profiles of violent individuals as shown by variants of psychopathy (Skeem et al., 2003). Impulsivity, childhood antisocial behaviors and lack of remorse have been associated with several antisocial behaviors (e.g., future convictions and violent acts against other people) (Farrington, 1990; Goldstein et al., 2006). Additionally, anger and impulsivity in BPD were related with violence severity, repetition of violent acts and injury to the victims (Gonzalez et al., 2016). Suicide attempters with BPD had higher levels of psychopathology, hostility, impulsivity and novelty seeking (McGirr et al., 2007; Goodman et al., 2012).

As both personality traits and aggression are transdiagnostic, particular subgroups of offenders may overlap in descriptions of particular co-occurrences, symptoms and type of aggressive behavior. Prior literature has conceptualized 3 major subtypes of offenders provided from different populations at risk of violence (see (Skeem et al., 2004)). Though these exploratory variants represent idealized groups that require validation. A first subgroup, being the most violent, with generally more instrumental violence, is more likely to have antisocial values, abuse substances and manifest affective deficits. A second moderately violent and emotionally driven subgroup is often hostile, violent and impulsive with heavy substance use and troubled interpersonal relationships. Lastly, a moderately to seriously violent subgroup often experiences positive psychotic symptoms, hostility and paranoia. Hence, complex profiles of offenders with different psychopathological organizations may differentially be associated with specific personality traits leading to violent behaviors. It is therefore crucial to cut across conventional diagnostic categories and integrate broader personality and behavioral based approaches to understand violence. Our study emerges in this context. To our knowledge, no studies have explored the diversity of profiles related to a combination of specific Cluster B personality traits, psychopathology and toxicomania in association with patterns of aggression both towards the self and others. Consequently, we aim to define profiles amongst a large population of male inmates from prison and psychiatric inpatient settings at risk of violence.

2. Methods

Data was collected as a part of three different studies and was combined in a new database. The methods of these studies have been described elsewhere (for details, see (Dumais et al., 2010; Dumais et al., 2011; Dumais et al., 2014; Horn et al., 2014)). Briefly, the objectives of these previous studies were in line with SMI and violence in newly convicted offenders and psychiatric inpatients. Recruitment took place between 1998 and 2015 from various prisons, forensic psychiatric facilities and inpatient facilities across Quebec.

2.1. Participants

A total of 728 male inmates were included in this study. The term inmate used in this study comprised of offenders detained in prison as well as in forensic and psychiatric inpatient settings. All the subjects from these three different studies gave their written informed consent after receiving a detailed description of the research protocol. The studies were approved by the local ethics committee. French- and English-speaking male adults aged between 18 and 84 years old (mean = 38.57, SD = 12.45) constituted the study population.

2.2. Measures

Data was obtained through standardized interviews and questionnaires as well as consultation of criminal and psychiatric records. All questionnaires were administered by trained psychologists and well-trained graduate psychology students.

2.2.1. Demographic data

Demographic data (age, marital status and education), criminal history (criminal conviction) and psychiatric histories were provided by interviews and consultation of the medical and criminal records.

2.2.2. Diagnoses

Psychiatric diagnoses were determined according to the Structured Clinical Interview for Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) Axis I disorders (SCID-I) (First, 1997a) and Axis II disorders (SCID-II) (First, 1997b). These semi-structured interviews were used in this study to determine lifetime SUDs, psychiatric disorders (SCID-I) and PDs, more specifically ASPD, BPD and Narcissistic PDs (NPD) traits (SCID-II). The reliability and validity of the procedure has been well-established (Zanarini et al., 2000; Lobbestael et al., 2011). We obtained a good interrater agreement on Axis I and II diagnoses (k = 0.65–1.0) (Dumais et al., 2010).

2.2.3. MacArthur Community Violence Instrument (MCVI)

The MCVI (Monahan et al., 2001) is a self-report measure of violence and comprises 18 questions focusing on violence perpetration and violent victimization. Acts committed by the individual include two levels of severity such as severe aggressive behavior (murder or attempted murder, threat using a weapon, sexual assault, or any other violence with injury to a victim); minor or aggressive behavior without the use of a weapon or without injury. For this study, severe aggressive behaviors were included.

2.2.4. Impulsivity

To assess impulsivity levels, the Barratt Impulsiveness Scale (BIS-11 (Patton et al., 1995)), a 30-item self-report questionnaire was used. The BIS-11 has been developed to assess three impulsiveness components of impulsivity construct: attentional, motor and non-planning. The total score was used to validate our profiles. This tool is widely utilized and has shown good psychometric properties such as a good internal consistency (Cronbach' alphas ranging from 0.69 to 0.80) and a moderate to large test-retest reliability (Vasconcelos et al., 2012).

2.2.5. Suicide attempts

Suicide attempts were evaluated with the Lethality of Suicide Attempt Rating Scale (Smith et al., 1984). For our study, we only extracted the number of suicide attempts.

2.3. Data analysis

2.3.1. Multiple correspondence analysis (MCA)

MCA is an extension of the simple correspondence analysis designed to examine associations between variables represented in a 2-way frequency cross-tabulation table (Greenacre, 1994). It is an exploratory graphical method that permits to detect individual profiles using the variables included in the analysis. The rows and columns of the table are presumed to be points in a dimensional Euclidean space. Associations are established by calculating distances between points in the space, that is, the chi-square distances between subjects in diverse categories of the variables studied. In this analysis, we included the Cluster B PD traits, SUDs, violent behaviors (severe violence, use of an object or a weapon to hurt and suicide attempts). The objective of this analysis is to redefine the principal dimensions or axes of the space to capture most of the inertia (which may be interpreted as the explained variance or R^2). The output of MCA provides eigenvalues plotted by